

Work Order ID 124028

September-05-14 2:26:16 PM

124028

Page 1

Item ID: D3622-1

Accept

Revision ID:

Item Name: Ball Stud

Start Date: 9/05/14 Start Qty: 40.00

40

Required Date: 9/05/14 Req'd Qty: 40.00

40

Reference:

N900040100

Setup Start

NS1

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: MLJ

Date: 9/09/05

Tooling:

Date:

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N):

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
100		0.00							
100	Hardinge CNC LATHE SMALL								
Hardinge	Memo	0.00							
Hardinge CNC Lathe Small	1-TURN AS PER FOLIO FA686 & DWG D3622, FOLIO REV: A/A DWG REV: C 2-DEBURR AS REQUIRED								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110	Memo	0.00							
QC									
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120	Memo	0.00							
QC									
Quality Control									

DAS

37

9-09

14.09.08

DAS

37

9-09

14.09.08

ML 14/09/10

40 8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____

DISPOSITION

 Rework
 Scrap
 Use-as-is
 Suspected Unapproved

 Skid-tube
 Machining
 Thermoforming
 Large Fab

 Crosstube
 Small Fab
 Finishing
 Composite

 Water Jet
 Prod. Eng. Coor.
 Rec/Store/Packaging
 Supplier

 Engineering
 Quality
 Other

Part No. _____

NCR No. _____

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre	14/9/10	100	40	Dim 0.215 is 0.227 Vibration on perimeter of bell.	DAS 12 889 14/9/10	Acceptable. Test fit w/ SCS springs OK.	DAS 12 889 14/9/10	✓ 14/9/10	
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General					
	<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program			
	<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain			
	<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware			
	<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified			
	<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear			
	<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center			
	<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled			
	<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread			
	<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set			
	<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration			
	<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence			

Work Order ID 124028

September-05-14 2:26:16 PM

124028

Page 2

Item ID: D3622-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Ball Stud

Stop

NS2

Start Date: 9/05/14

Start Qty: 40.00 *40*

Cust Item ID:

Required Date: 9/05/14

Req'd Qty: 40.00 *40*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>1052</u>	0.00							
130 Packaging	Memo	0.00							
Packaging									

140 QC21- Final Inspection - Work Order Release 0.00

40X 14-9-14
DAS
26
9-89

140
QC
Quality Control

14/9/11

MLS

14-09-11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS				
Part No. _____	Rework	Scrap	Use-as-is	Skid-tube	Crosstube	Water Jet	Engineering	
NCR No. _____	Suspected	Unapproved		Machining	Small Fab	Prod. Eng. Coor.	Quality	
				Thermoforming	Finishing	Rec/Store/Packaging	Other	
				Large Fab	Composite	Supplier		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General								
Bending	Bend	Folio/Program	Outside Dimensions						Pressure/Forced
Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						Set-up
Cracks	Broken/Damage/Defect	Hardware	Part Incorrect						Temperature/Cure
Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing						Weld
Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved						Wrong Stock Pulled
Crushing	Countersink	Misaligned/off center	Positioned Wrong						
Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge						Other
Inspection Strip in Tube	Drawing	Misread							
Marks/Chatter	Drill Holes	Off-set							
Turning Sequence	Finish	Out of Calibration							
Wave/Twist in Tube	Fit/Function	Out of Sequence							

Picklist Print

September-05-14 2:26:19 PM

Page 1

Work Order ID: 124028

124028
D3622-1

Parent Item: D3622-1

Parent Item Name: Ball Stud

Start Date: 9/05/14

Required Date: 9/05/14

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP Rev:A New Issue 07-04-24 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303H0.500 *M303H0 500* 303 HEX BAR .500		Purchased	No			100	f	18.5660	0.108	5		DAS 37 9-29	14-09-08

Location	Loc Qty	Loc Code
MAT018	18.566	
m127464	2.73	
m128496	2.575	
m128882	13.261	532.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS				
Part No. _____	Rework	Scrap	Use-as-is	Skid-tube	Crosstube	Water Jet	Engineering	
NCR No. _____	Suspected	Unapproved		Machining	Small Fab	Prod. Eng. Coor.	Quality	
				Thermoforming	Finishing	Rec/Store/Packaging	Other	
				Large Fab	Composite	Supplier		

Root Cause <small>2AC</small>	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General								
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Set-up					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Weld					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Moved	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other					
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Power Loss/Surge						
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread							
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence							

DART AEROSPACE LTD	Work Order:	124028
Description: Ball Stud	Part Number:	D3622-1
Inspection Dwg: D3622 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article **□** Prototype

DAS

Measured by:	37 9-09	Audited by:	<i>✓</i>	Preliminary Approval:	
Date:	14.09.08	Date:	14/09/10		Date:

Rev	Date	Change	Revised by	Approved
A	08.04.15	New Issue	KJ/DD	
B	10.02.02	Dwg Rev updated	KJ	
C	11.02.18	Dimensions updated per Dwg Rev C	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____
 Part No. _____
 NCR No. _____

DISPOSITION

Rework
 Scrap
 Use-as-is
 Suspected Unapproved

Skid-tube
 Machining
 Thermoforming
 Large Fab

AGAINST DEPARTMENT/PROCESS

Crosstube
 Small Fab
 Finishing
 Composite

Water Jet
 Prod. Eng. Coor.
 Rec/Store/Packaging
 Supplier

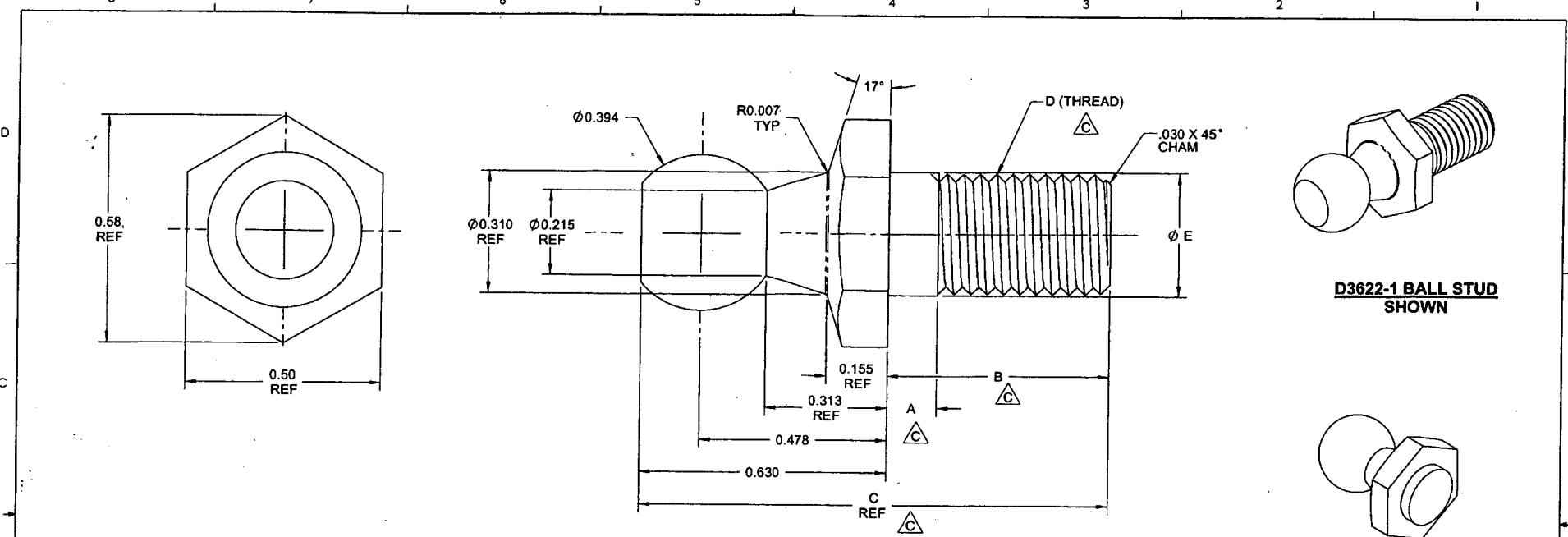
Engineering
 Quality
 Other

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
	Bending	Bend	Folio/Program	Outside Dimensions
	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance
	Cracks	Broken/Damage/Defect	Hardware	Part Incorrect
	Crimp/Kink/Ripple/Wave	Burrs	Inspection Incomplete/Unqualified	Part Lost/Missing
	Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved
	Crushing	Countersink	Misaligned/off center	Positioned Wrong
	Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge
	Inspection Strip in Tube	Drawing	Misread	Pressure/Forced
	Marks/Chatter	Drill Holes	Off-set	Set-up
	Turning Sequence	Finish	Out of Calibration	Temperature/Cure
	Wave/Twist in Tube	Fit/Function	Out of Sequence	Weld
				Wrong Stock Pulled
				Other

8 7 6 5 4 3 2 1



PART NUMBER	DIM A	DIM B	DIM C	WEIGHT (LBS)	THREAD D	Ø E MIN MAX
D3622-1	0.125	0.563	1.19	0.03	0.3125-24UNF-3A	0.3053 0.3125
D3622-3	0.125	0.563	1.19	0.03	0.1875-32UNF-3A	0.1840 0.1900
D3622-5	0.090	0.900	1.53	0.04	0.3125-24UNF-3A	0.3053 0.3125
D3622-7	0.060	0.330	0.96	0.03	0.3125-24UNF-3A	0.3053 0.3125
D3622-9	0.090	1.160	1.79	0.04	0.3125-24UNF-3A	0.3053 0.3125
D3622-11	0.060	N/A	0.69	0.02	NOT THREADED	0.270 0.300
D3622-13	0.090	0.680	1.31	0.03	0.3125-24UNF-3A	0.3053 0.3125

D3622-X BALL STUD ▲

NOTES:
 1) MATERIAL: AISI 303 HEX BAR
 REF DART SPEC M303H0.500
 2) FINISH: N/A
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: IDENT P/N D3622-X & B/N PER QSI 044
 7) WEIGHT: SEE D3622-X TABLE

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 124028 MLS
1404-05D3622-11 BALL STUD
SHOWNRELEASED
2010-09-23

C	SHEET 1: ADD -5, -7, -9, -11 & -13. ADD D3622-X TABLE. SHEET 2 DELETED			JPH	10.07.20
B	ADD -3 (SHEET 2)			HS	09.09.18
A	NEW ISSUE			MB	07.04.13
REV.	DESCRIPTION			BY	DATE
DESIGN	JPH	DART AEROSPACE LTD			
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA			
CHECKED	JPH	DRAWING NO. REV. C			
MFG. APPR.	JPH	D3622 SHEET 1 OF 1			
APPROVED	JPH	TITLE SCALE			
DE APPR.	JPH	BALL STUD NTS			
DATE	10.07.20	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION			AGAINST DEPARTMENT/PROCESS				
Part No. _____	Rework	Scrap	Use-as-is	Skid-tube	Crosstube	Water Jet	Engineering	
NCR No. _____	Suspected	Unapproved		Machining	Small Fab	Prod. Eng. Coor.	Quality	
				Thermoforming	Finishing	Rec/Store/Packaging	Other	
				Large Fab	Composite	Supplier		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear		General									
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	<input type="checkbox"/> Other						